NIST Fact Sheet

NIST Position on Proposed OOXML Standard

What is XML?

XML stands for Extensible Markup Language. XML is a fee-free open standard developed and maintained by the World Wide Web Consortium (W3C). XML allows the sharing and manipulation of data across different computer systems.

What is the issue?

Ecma International, a worldwide membership organization for computer and information systems, has submitted Standard ECMA-376, Office Open XML File Formats (December 2006)*, for fast track processing* by the International Organization for Standardization and International Electrotechnical Commission (ISO/IEC). ECMA-376 is now being balloted by ISO/IEC as *ISO/IEC DIS 29500 Office Open XML File Formats*. There have been claims that DIS 29500 is duplicative with the already approved standard, *ISO/IEC 26300:2006, Information technology -- Open Document Format for Office Applications (OpenDocument) v1.0.* ISO/IEC 26300 was previously submitted to ISO/IEC by the global e-commerce consortium OASIS (Organization for the Advancement of Structured Information Standards) for fast processing under the Publicly Available Specification (PAS) process in ISO/IEC Joint Technical Committee 1 (JTC 1) on Information Technology. ISO/IEC 26300 is often abbreviated as ODF and DIS 29500 is often abbreviated as OOXML.

What are the stated purposes of ODF and OOXML?

Both standards are mapping XML to legacy software binary file formats to support always being able to open and process documents. The following snapshots on the purposes of the two standards are excerpted from the standards:

ISO/IEC 26300:2006, Information technology -- Open Document Format for Office Applications (OpenDocument) v1.0

> ISO/IEC 26300:2006 defines an XML schema for office applications and its semantics. The schema is suitable for office documents, including text documents, spreadsheets, charts and graphical documents like drawings or presentations, but is not restricted to these kinds of documents. ISO/IEC 26300:2006 provides for high-level information suitable for editing documents. It defines suitable XML structures for office documents and is friendly to transformations using XSLT or similar XML-based tools.

ISO/IEC DIS 29500 Office Open XML File Formats

OpenXML was designed from the start to be capable of faithfully representing the pre-existing corpus of word-processing documents, presentations, and spreadsheets that are encoded in binary formats defined by Microsoft Corporation. The standardization process consisted of mirroring in XML the capabilities required to represent the existing corpus, extending them, providing detailed documentation, and enabling interoperability. At the time of writing, more than 400 million users generate documents in the binary formats, with estimates exceeding 40 billion documents and billions more being created each year.

What role does NIST play in voting for the DIS 29500?

NIST is a member of the InterNational Committee for Information Technology Standards Executive Board (INCITS EB), the body that will cast the U.S. vote on DIS 29500. INCITS serves as the U.S. Technical Advisory Group for ISO/IEC Joint Technical Committee 1 (JTC 1), which is responsible for international standardization in the field of information technology. The INCITS Executive Board is presently determining its vote and comments on the DIS 29500 fast track ballot, which closes on September 2, 2007. The U.S. voting options for DIS 29500 are: APPROVE; APPROVE WITH COMMENTS; DISAPPROVE WITH COMMENTS; or ABSTAIN.

What is the NIST position on DIS 29500?

Technical, editorial, and general comments have been identified by various interested parties during the process of determining the U.S. vote on DIS 29500. It is important to note that all consensus standards have technical and other issues identified that need to be negotiated before final approval. NIST has voted for conditional approval of DIS 29500 by the U.S. with the expectation that the technical comments submitted by the U.S. will be satisfactorily addressed.

To register its conditional approval of the prospective standard, NIST is following the rules of the ISO/IEC JTC 1 committee for voting on fast-track draft-international standards.   The end of clause 9.8 says,
"Conditional approval should be submitted as a disapproval vote." (See
http://isotc.iso.org/livelink/livelink/fetch/2000/2122/327993/327973/JTC_1_Directives_Ed_3__2007.pdf?nodeid=6182390&vernum=0)

In the absence of any non-resolvable substantive technical issue, NIST believes that the U.S. government should remain neutral with respect to technology and standards choices. The availability of a wide array of technologies and standards allows the U.S. Government to best meet its information technology needs, while retaining the ability to exchange data.

What is the process for resolving National Bodies' comments on DIS 29500?

There will be a Ballot Resolution Meeting (BRM) under the auspices of JTC 1 Subcommittee 34 (Document description and processing languages). The BRM Convener will be provided by Subcommittee 34. All of the comments from the National Bodies will be collated by the Project Editor provided by Ecma International. The resulting comment template typically consists of a listing of each comment with justification for change, the proposed change that would satisfy the National Body and an observation on how to possibly resolve each comment. The National Body delegates to the BRM meeting will determine the disposition of all comments.

The BRM meeting is anticipated to occur sometime in February 2008. Based upon the resulting final text for DIS 29500, all National Bodies that have voted on the DIS 29500 fast track ballot will have the option of reaffirming or changing their vote.

What technical issues are being raised?

Issues include:

- Many key terms in the standard are not yet defined and therefore concepts are ambiguous (e.g., content type, root namespace, source relationship, comments, real-time data formula).
- Some of the definitions in the standard are incomplete or incorrect.
- Normative references are needed for cited standards (e.g., which version of ASCII is being required?).
- A stronger hash algorithm, such as SHA-256, should be required.
- Some informative examples are invalid.
- OOXML uses a proprietary naming scheme, rather than ISO/IEC 11179-5 element naming rules.
- Some requirements are not sufficient to support accessibility requirements of Section 508 of the U.S. Rehabilitation Act.

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